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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/321,594	05/28/1999	ALAN J. DEMERS	50277-313	6698

7590 07/26/2005  
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EXAMINER

SHAH, SANJIV

ART UNIT PAPER NUMBER

2625

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/321,594 ✓

Applicant(s)

DEMERS ET AL

Examiner

Sanjiv D. Shah

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11, 14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 14-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-8, 11 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zollinger et al. (USPN 5,999,947 - filed on 05/1997).

Regarding independent claim 1, Zollinger et al. (Zollinger) discloses:

A method of propagating changes to a table (on col. 3, lines 1-10: teaches sending table differences to another table) comprising the steps of:

maintaining a first copy of the table at a first site (on col. 3, lines 1 -67: teaches copy of a database table at client);

maintaining a second copy of the table at a second site (on col. 3, lines 1-67: teaches copy of a database table at server); and

transmitting changes of the first copy of the table from the first site to the second site

(on col. 3, lines 1-67: teaches sending database table differences from copy of the

database table at the server to the copy of the database table at client for synchronizing tables);

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updating the second copy of the table at the second site based on the transmitted changes (on col. 3, lines 1-67: teaches updating copy of database tables from server to client based on database table differences);

wherein the first copy of the table and the second copy of the table resulting from said transmitting and updating (on col. 2, lines 14-17 and on col. 7, lines 46-54 teaches transmitting changes to the client to update client copy of the database table)

have at least one non-overlapping relational database column (on col. 5, lines 64-66, col. 6, lines 3-25, and col. 10, line 40 - col. 11, line 32: teaches updating database table from server to client by adding a column (database table difference) to the database table of the client, wherein the column in the database table is in a relational database environment).

However, Zollinger does not explicitly disclose "non-overlapping column".

Zollinger on col. 6, lines 19-25 and col. 10, line 40 - col. 11, line 32: teaches an entire column can be added to a database table changing the structure of the database table.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated adding an entire column to a database table, which will change the structure of the database table of Zollinger replacing non-overlapping column in a table in order to efficiently handle the updating process of small database table.

Regarding dependent claim 2, Zollinger discloses:

wherein the non-overlapping relational database column is present in the first copy and

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missing in the second copy (on col. 6, lines 19-25 and col. 10, line 40 - col. 11, line 32: teaches an entire column can be added or deleted (missing) to a database table changing the structure of the database table; the copy of the database table at client can be missing a column and such updating process is needed to synchronize the database table with the copy of the database table at server having the missing column).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated adding an entire column to a database table, which will change the structure of the database table of Zollinger replacing non-overlapping column in a table in order to efficiently handle the updating process of small database table.

Regarding dependent claim 3, Zollinger discloses:

wherein the non-overlapping relational database column is missing in the first copy and present in the second copy (on col. 6, lines 19-25 and col. 10, line 40 - col. 11, line 32: teaches an entire column can be added or deleted (missing) to a database table changing the structure of the database table; updates as part of synchronizing the database differences of a client and server copy database tables).

it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated adding an entire column to a database table, which will change the structure of the database table of Zollinger replacing non-

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overlapping column in a table in order to efficiently handle the updating process of small database table.

Regarding dependent claim 4, Zollinger discloses:

comprising the step of reconciling differences in the column shape of the first copy and the column shape of the second copy for the transmitted changes (on col. 3, lines 1-43 and col. 10, line 40 - col.11, line 32: teaches sending database table differences and updating the copy of the database table at client by adding a column which will change the structure of database table)

Regarding dependent claim 5, Zollinger discloses:

comprising the step of defining a top flavor describing overlapping relational database columns and non-overlapping relation database columns of the table (on col. 6, lines 3-40: teaches supersets or collections (flavor) of the updates which may include updating a database table by adding or deleting columns of a database table).

it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated adding an entire column to a database table, which will change the structure of the database table of Zollinger replacing non-overlapping column in a table in order to efficiently handle the updating process of small database table.

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Regarding dependent claim 6, Zollinger discloses:

comprising the steps of: defining a first flavor describing the columns of the first copy; and transmitting an indicator of the first flavor from the first site to the second site (on col. 6, lines 3-40: teaches supersets or collections (flavor) of the updates of the database tables)

Regarding dependent claim 7, Zollinger discloses:

comprising the steps of : defining a second flavor describing the columns of the second copy and wherein the step of updating the second copy of the table at the second site based on the transmitted changes includes the step of updating columns between the first flavor and the second flavor in the second copy of the table (on col. 6, lines 3-40: teaches supersets or collections (including second flavor) of the updates of the database tables based on the differences of two separate database tables).

Regarding dependent claim 8, Zollinger discloses:

the step of maintaining a first copy of the table at a first site includes the step of maintaining an updatable snapshot at a laptop computer site and the step of maintaining a second copy of the table at the second site includes the step of maintaining a master table at a master site (on col. 6, lines 19-40: teaches changes of a database table can be determined by a database table that has been "frozen" so that differences may be measured; on col. 7, lines 28-37: teaches laptop computer).

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Regarding independent claim 11, Zollinger discloses:

A method of propagating changes to a data container (on col. 3, lines 1-10: teaches sending table differences to another table), comprising the steps of:

maintaining a first copy of the data container at a first site; (on col. 3, lines 1-67: teaches copy of a database table at client);

maintaining a second copy of the data container at a second site (on col. 3, lines 1-67: teaches copy of a database table at server); and

transmitting changes to the first copy of the data container from the first site to the second site (on col. 3, lines 1-67: teaches sending database table differences from copy of the database table at the server to the copy of the database table at client for synchronizing tables);

updating the second copy of the data container at the second site based on the transmitted changes (on col. 3, lines 1-67: teaches updating copy of database tables from server to client based on database table differences);

wherein the first copy of the data container and the second copy of the data container have at least one non-overlapping data field (on col. 5, lines 64-66, col. 6, lines 3-25, and col. 10, line 40 - col. 11, line 32: teaches updating database table from server to client by the addition of an extra field or column (database table difference) to the database table of the client).

However, Zollinger does not explicitly disclose "non-overlapping data field".

Zollinger on col. 6, lines 19-25 and col. 10, line 40 - col. 11, line 32: teaches an extra



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field or column can be added to a database table changing the structure of the database table.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated adding field or column to a database table, which will change the structure of the database table of Zollinger replacing non-overlapping field in a table in order to efficiently handle the updating process of small database table.

Regarding dependent claim 14, Zollinger discloses:

wherein the first copy of the table and second copy of the table have at least one non-overlapping relational database column after said updating (on col. 10, line 40 - col. 11, line 32, see figures 2A and 2D: teaches the title column has been added into the table of figure 2D); Figures 2A and 217 shows the differences after update from the addition of a new column in figure 217 (non-overlapping columns between tables)).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated adding an entire column to a database table, which will change the structure of the database table of Zollinger replacing non-overlapping column in a table in order to efficiently handle the updating process of small database table.

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Regarding dependent claim 15, Zollinger discloses:

wherein the first copy of the container and second copy of the container have at least one non-overlapping relational database field after said updating (on col. 10, line 40 - col. 11, line 32, see figures 2A and 2B: teaches the field of Mr. Mauss has been added into the table of Figure 2B; Figures 2A and 28 shows the differences after updating from the addition of a new field in figure 28 (non-overlapping field)).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated adding field or column to a database table, which will change the structure of the database table of Zollinger replacing non-overlapping field in a table in order to efficiently handle the updating process of small database table.

4. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zollinger et al. (USPN 5,999,947 - filed on 05/1997) in view of Suver (USPN 6,016,497 - filed 12/1997).

Regarding independent claim 9, Zollinger discloses:

A method of modifying a table to drop a first column and add a second column, said table being replicated at a plurality of sites (on col. 6, lines 19-25 and col. 10, line 40 - col. 11, line 32: teaches columns or records in a database table can be added and deleted and updating these changes of the addition and deletion to another copy of the database table), comprising the steps of:

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- (a) defining a first flavor for a first site, said first flavor describing the table as having both the first column and the second column (on col. 3, lines 1-67: teaches copy of a database tables at client or server and on col. 6, lines 19-40: teaches updates of database tables may be supersets or collections (flavors) of other updates);
- (b) adding the second column to the table at the first site, so that the table contains both the first column and the second column (on col. 6, lines 19-25 and col. 10, line 40 - col. 11, line 32: teaches adding column to a database table);
- (c) defining a second flavor for a second site, said second flavor describing the table as having the second column but not the first column (on col. 3, lines 1-67: teaches copy of a database tables at the client or server, in which the columns of the client's or server's database table may not have the current updated column and on col. 6, lines 19-40: teaches updates of database tables may be supersets or collections (flavors) of other updates);
- d) adding the second column to the table at the second site (on col. 6, lines 19-25 and col. 10, line 40 - col. 11, line 32: teaches columns can be added and records in a database table can be deleted and updating these changes of the addition and deletion to another copy of the database table);
- (e) defining the second flavor for the first site and dropping the first column from the table at the first site (on col. 6, lines 19-40 and col. 10, line 40 - col. 11, line 32: teaches deletion of records from a database table); and
- (f) maintaining replication activities while performing steps (a), (b), (c), (d), and (e) (on

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col. 3, lines 1-67: teaches synchronization process between two-database table at the client and at the server).

Zollinger on col. 6, lines 19-25 and col. 10, line 40 - col. 11, line 32: teaches changing the state of a database, such as additions, deletions, or modification of records and which changes may include adding an extra field or column to a database table, in other words, if changes such as deleting records or adding columns to a database table is done, deletion of a column containing such records can also be done.

However, Zollinger does not explicitly disclose "dropping the first column".

Suver on col. 19, lines 15-17 teaches synchronization between multiple tables; on col. 21, lines 6-9 teaches updating the database. schema; and on col. 21, lines 61-64 teaches dropping a column.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have modified Suver into Zollinger to provide a way to drop columns, as taught by Suver, incorporated into the table of Zollinger, in order to enhance the manipulation of columns and rows within a database.

Regarding dependent claim 10, Zollinger discloses:

transmitting changes to the table from the first site to the second site; and updating the second copy of the table at the second site based on overlapping columns between the first flavor and the second flavor (on col. 3, lines 1-43 and col. 10, line 40 - col. 11, line 32: teaches sending database table differences and updating the copy of the database table at client changing the structure of database table).

***Response to Arguments***

3. Applicant's arguments filed 4/18/2005 have been fully considered but they are not persuasive.

Applicant argues that Zollinger does not teach at least one non-over-lapping data field. Examiner disagrees. Specifically Zollinger teaches adding a data field as recited in the office action and further as described in col. 6, lines 18-25. When a data field is added to the table that field is non-overlapping. The broadest reasonable interpretation is that an additional data field exists at any particular time. Zollinger definitely teaches the claimed limitation. Therefore applicant's arguments are not persuasive.

Applicant further argues that Suver and Zollinger in combination fail to teach "dropping the first column". Applicant further asserts that cited portion of Zollinger col. 6, lines 18-25 merely refers to "database change event" including additions, deletions or modifications of record but does not disclose dropping the column as claimed. Examiner disagrees. The broadest reasonable interpretation of the claimed feature is deleting a column. Zollinger at col. 6, lines 18-25 specifically teaches addition and deletion of record and further gives example of addition such as adding a field. One ordinary skill in the art would understand that same concept works with deleting, i.e. deleting a field. A field by itself could constitute a column. Therefore "dropping the column" as claimed is

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taught by combination of cited references. Therefore applicant's arguments are not persuasive.

### ***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

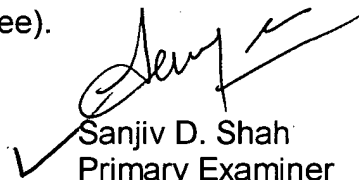
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanjiv D. Shah whose telephone number is (571) 272-4098. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh M. Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Sanjiv D. Shah  
Primary Examiner  
Art Unit 2625

S. Shah  
July 09, 2005